

**International Academic Multidisciplinary Research Conference 2017**

**Conference Proceedings**

**INTERNATIONAL BUSINESS ECONOMIC TOURISM SCIENCES TECHNOLOGY  
HUMANITIES SOCIAL SCIENCES AND EDUCATION RESEARCH CONFERENCE**

*London, United Kingdom  
5 – 7 April, 2017*

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*The International Education Social Sciences and Humanities Research Conference*

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# Conference Proceedings

INTERNATIONAL BUSINESS ECONOMIC TOURISM SCIENCES TECHNOLOGY  
HUMANITIES SOCIAL SCIENCES AND EDUCATION RESEARCH CONFERENCE

*London, United Kingdom  
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## INTRODUCTION

We would like to welcome our colleagues to the International Business Tourism Transport Technology Social Sciences Humanities Education Research Conference. It is the seven series in 2016 of Conference on Business Tourism and Apply Sciences was held in Amsterdam. As always many members of the ICBTS 2016 community look forward to meeting, sharing and exchanging their research ideas and results in both a formal and informal setting which the conference provides. Likewise, the concept of alternating the international conference every one month on April to November between Europe and the rest of the world is now well established. This year's event in London (UK) Paris (France) Munich (Germany) Amsterdam (Netherlands) Boston (USA) Toronto (Canada) London (United Kingdom) Zurich (Switzerland) Berlin (Germany) Tokyo (Japan) and another continues with the cultural following the very successful and productive event held in London-Zurich in August 2016 in the field of various types for international academic research conference on Business Economics Social Sciences Humanities Education and Apply Sciences. As usual The ICBTS 2016 brings together leading academics, researchers and practitioners to exchange ideas, views and the latest research in the field of Business Tourism and Apply Sciences.

The theme of this event The 2016 ICBTS International Business Tourism Social Sciences Humanities and Education Research Conference is "Opportunities and Development of Global Business Economics Social Sciences Humanities and Education" It is also represents an emerging and highly challenging area of research and practice for both academics and practitioners a like, The current industrial context is characterized by increasing global competition, decreasing product life cycles, Global Business, Tourism Development, Social Sciences Humanities Education Apply Sciences and Technology collaborative networked organizations, higher levels of uncertainties and, above all, and customers. In our view holding this event in Tokyo represents a timely opportunity for academics and researchers to explore pertinent issues surrounding Business Economics Tourism Social Sciences Humanities Education Sciences and Technology.

Potential authors were invited to submit an abstract to the International Conference Session Chairs. All abstracts were reviewed by two experts from the International review committee and final papers were further reviewed by this volume with 30 contributing authors coming from 18 countries. This book of proceedings has been organized according to following categories:

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Haus 19, Raum 113  
phone.: +49 (3841) 753 - 7578

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Email: icbts@icittconference.com  
Email: conferenceteam@icbtsconference.com

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## **SPEAKER BACKGROUND**



**Professor Dr. Ebrahim Soltani**

Prof. Dr. Ebrahim Soltani is a Professor of Business School at University of Kent Canterbury in England and he is Department Chair - Quality & Operations Management at Hamdan Bin Mohammed Smart University Dubai of United Arab Emirate. He was appointed associate professor in business management, total quality management, and operation management in 1989 at the University of Kent, he continued his research in the field of operation management, business management. He has published over 50 papers and reports in such journals as International Journal of Technology and Production Research. He supervised a considerable number of PhD theses and is a consultant on industrial and production industry in England and United Arab Emirate.

## **SPEAKER BACKGROUND**



**Professor Dr. Kai Heuer**

Prof. Dr. Kai Heuer is full professor for business administration at the Business Faculty of Wismar University in Germany. Before, he served as a full professor at the Environmental Campus of Trier University of Applied Sciences. He studied business administration in Germany and the U.S.A. and holds an MBA and a doctoral degree. He has management experience from leading positions in different companies and as business consultant. His research areas are management accounting, organizational development, and international management where he has published numerous papers, reports and textbooks. He is the head of Master Program in Business at Wismar University and a member of the Schmalenbach-Society for Business Economics, Cologne; managing director of the Institute of Health-, Senior- and Social Management; and a former member of the board of the Centre for Aviation Law and Management.

## **SPEAKER BACKGROUND**



### **Dr. Tariq Khan**

**Dr Tariq Khan** is a Lecturer and Director of Postgraduate Programmes of Business School in Brunel University, Uxbridge, London, United Kingdom. He received his BEng in Aerospace Engineering from Kingston University, his MSc in Manufacturing Technology from University of Warwick, and his PhD in Intelligent Education Systems from University of Salford. He subsequently worked as a research associate in Heriot-Watt University Edinburgh and as a senior lecturer at London Metropolitan University. He has specialist teaching in Business Process Modelling, Web Programming ,Software Engineering, Classical Logic, Human Computer Studies. He has Book and published over 20 papers and reports in such journals as Information Systems Evaluation and Integration (ISEing). He supervised a considerable number of PhD theses and is a consultant on business and supply chain and engineering industry in England and United Kingdom.

## **SPEAKER BACKGROUND**



### **Dr. Chayanan Kerdpitak**

**Dr. Chayanan Kerdpitak** is a Lecturer and management committee of Doctor of Business Administration Programmes of College Management Innovation in Valaya Alongkorn Rajabhat University in Thailand and a management committee of CK Research Consultant in Bangkok. I was a Lecturer of Principle Marketing, Sales Management, Consumer Behavior, and Marketing Research at The Suan Dusit University in Thailand. She received a Ph.D. in the field of Business Logistics within Industrial at Ramkhamhaeng University, Thailand. She has published over 20 proceeding paper and some reports in such journals as International Journal Business and Economics Research. She has been a consultant on Import Automobile Industry from Germany for International Marketing and Marketing Research. Chayanan graduated a B.B.A and M.B.A in Business Administration from The Ramkhamhaeng University, Bangkok, Thailand (Major in Marketing).

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# THE EFFECTS OF THAI MIND-BODY EXERCISE “RUSIE DUTTON” ON BODY WEIGHT AND BLOOD LIPID LEVEL IN MENOPAUSAL WOMEN

**Kanit Ngowsiri\*, Assoc. prof. Suchitra Sukonthasab\*\* & Assoc. prof. Prasong  
Tunmahasamut\*\*\***

*\*Dr., College of Nursing and Health, Suan Sunandha Rajabhat University, Bangkok 10300,  
Thailand.*

*E-mail: kanit.ng@ssru.ac.th*

*\*\*Assoc. Prof., Faculty of Sports Science, Chulalongkorn University, Bangkok 10330, Thailand.*

*E-mail: sukonthasab@hotmail.com*

*\*\*\*Assoc. Prof., Department of Obstetrics & Gynaecology, Siriraj Hospital, Bangkok 10700, Thailand.*

*E-mail: prasong98@gmail.com*

## ABSTRACT

To examine the effects of Thai mind-body exercise “Rusie Dutton” on body weight and blood lipid level of menopausal women. Menopausal women (aged 45-59) were recruited and randomly allocated to 2 groups. Rusie Dutton group (n=24) practiced Rusie Dutton conducted by Wat Pho Thai Traditional Massage School for 12 weeks. The control group (n=26) was assigned to a waiting list and received no intervention. Body weight, BMI, blood lipid including cholesterol, triglyceride, high-density lipoprotein (HDL), and low-density lipoprotein (LDL) were assessed at baseline and the end. A paired-sample t-test and independent-sample t-test were used for statistical analysis.

Significant improvement was found in all variables except for HDL within group ( $p < .05$ ) in Rusie Dutton group, and no significant difference between groups was found ( $p < .05$ ) in all variables except triglyceride. Therefore, Thai mind-body exercise “Rusie Dutton” can promote health related BW, BMI and blood lipid level for menopausal women but inconclusive. Further research is warranted to confirm these preliminary findings and encourage implementation in other group of people.

**Keywords**—rusie dutton, mind-body exercise, menopause,

## INTRODUCTION

Menopause represents a period of accelerated physiological, psychological, and neuroendocrine aging in women. The constellation of adverse changes that occurs in response to the altered hormonal environment characterizing menopause, especially the sharp decline in estrogens[1-3]. This period most of women not only have menopause symptoms but also appear to increase risk of diseases such as cardiovascular disease (CVD)[4-7], hypertension[8-10], hyperlipidemia and obesity[5,8-10,11,12].

In Thailand, there are 6.6 million women that is in menopause (aged 45-59 years) or 10.6% of the Thai population[13]. They have risk factors associated CVD, the most important of which is inappropriate life styles. Therefore, behavioral intervention for health promotion should be needed.

Exercise is considered one of the most important mean to slow and prevent hypertension, hyperlipidemia and obesity[5,8-10,11,12]. The recent studies indicated that mind-body exercises such as Yoga, Tai Chi and Qgong have been effective in hyperlipidemia and obesity [14-16]. Rusie Dutton, Thai wisdom exercise is another mind-body exercise with a set of slowly and smoothly connected movements of all body part, paced respiration, diaphragmatic breathing and mind fullness respiration with breathing techniques. Therefore Rusie Dutton might be an effective intervention for menopausal women, reducing body weight and blood lipid level.

Rusie Dutton initially developed for exercise by Wat Phra Chetuphon Vimolmangklaram (Wat Pho) and Thai Ministry of Public Health. It is well-known to Thai people for more than 200 years and widely spread in Asian. There are some reports have shown that the practice of Rusie Dutton can increase

flexibility[17], decrease stress[18-19], muscle pain[19] and menopause symptoms[20]. As a result, this study was to examine the effect of Thai mind-body exercise “Rusie Dutton” in the prevention risk of CVD through body weight and blood lipid level in a group of menopausal women in Thailand.

## METHODOLOGY

### 1. Study design

The study used a quasi-experimental randomized control group design with pre and post tests over 13 weeks and took place between June and October 2013.

### 2. Participants

Sixty female volunteers (aged 45-59 years) in a Thai community were recruited and screened via the Physical Activity Readiness Questionnaire(PAR-Q)[21] and basic physical examination which confirmed that taking part in Rusie Dutton practice was not contra indicated for any of the women. The screening assessment reported 54 women met the inclusion criteria that included the following : BMI < 30.0 kg/m<sup>2</sup>, absent of anti hyperlipidemic drugs, no spine or knee joint problems and no limited physical activity. They were randomized into an intervention group who participated in 13 weeks Rusie Dutton and a controlled group did not received any intervention but on a wait list.

Prior to participation in any of the study procedures, 27 participants from each group read and signed an informed consent form that approved by the Chulalongkorn University Research Ethics Committee, then all participants completed a baseline assessment to record body weight (BW.), body mass index (BMI), and blood lipid including cholesterol, triglyceride, high-density lipoprotein (HDL), and low- density lipoprotein (LDL). The participants were excluded if they attended the Rusie Dutton class less than 13 times (80% of 16 times), been unwilling to attend the group session or had a change of medication during the period of intervention.

The experimental group was requested to regularly attend a 13 week Rusie Dutton class of 16 postures conducted by Wat Po Thai Traditional Massage School and approved by three sport science experts (IOC=0.92), while the control group was advised to maintain their normal habit, and not to begin any health promotion program during the study period and was offered the opportunity to take part in the Rusie Dutton practice after the post-test assessment was completed. Both groups received a Menopausal Health promotion handbook that consisted of a dietary and exercise guidelines for menopausal women.

### 3. Procedures

Thirteen weekly Rusie Dutton class were supervised by the researcher, a certified Rusie Dutton trainer from the Wat Po Thai Traditional Massage School in Bangkok. The practice procedure was the following :

Week 1 : The class began with a 10 minutes for Rusie Dutton exercise explanation; 10 minutes for training in diaphragmatic breathing and mind fullness with breathing techniques (inhalation for four count, retention of breath for three and exhalation for six); 60 minutes for muscle stretching of the neck, shoulders, back and legs and 10 minutes breathing techniques. The participants were requested to practice these techniques and stretching the body parts at home every day anytime they could.

Weeks 2-13 : Ninety minute Rusie Dutton class at the center of community performed 3 times in the second week, twice in class and once at home in the third week, once a week in class and at least 2 days/wk. at home by following positions on a poster or a DVD recommending Rusie Dutton for 20-30 min. each day over ten weeks. In addition, a daily record of Rusie Dutton practice was kept by participants.

Rusie Dutton class were offered on a weekly basis, on Friday from 7.30-9.00 a.m. in a center of community, consisted of a question-and-answer period about their Rusie Dutton practice and health problems (20 min.), followed by breathing and warm up technique (20 min.), muscle stretching (5 min), practice of the postures of Rusie Dutton (40 min.) and deep breathing and stretching (5 min.). The class session began with a simple postures and followed by more difficult ones until all 16 postures were covered. Participants were encouraged to extend, stretch or twist the limbs and body part as much as they could but no pain. During the movements, participants were instructed to focus on mindfulness meditation and breathing technique by inhalation while moving, retention of breathe while posing and exhalation while returning to the initial position. Finally, data on all variables were collected at the end of the experiment.

#### 4. Measurement

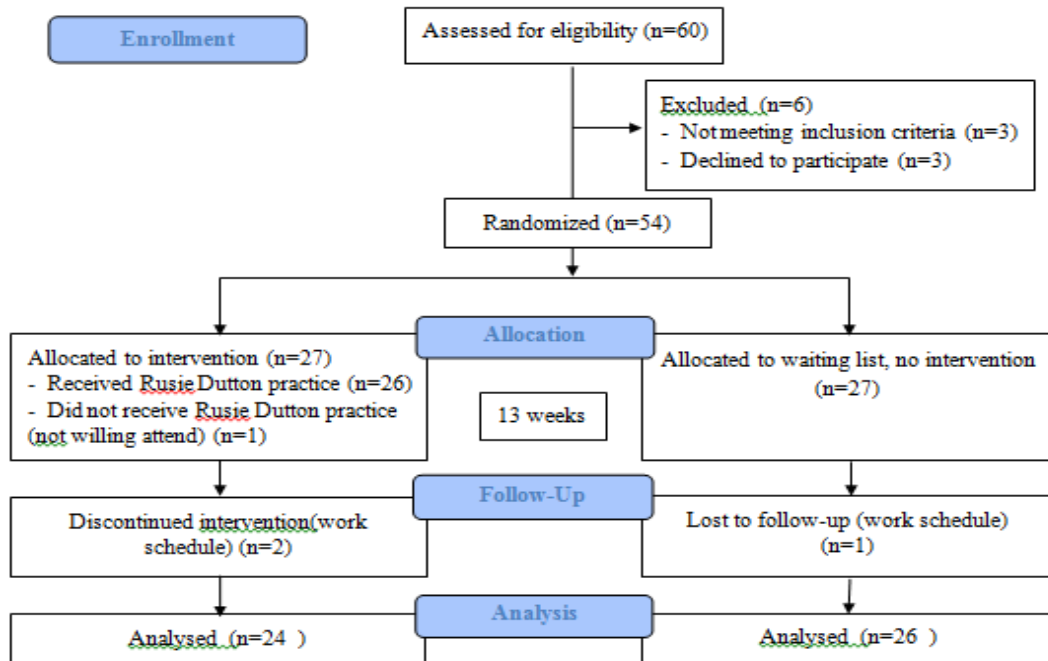
4.1 BW & BMI : Participants were weighed without shoes on a single digital scale which was calibrated according to normal specifications. The BMI was calculated by the standard formula:  $BMI = BW(kg.) / height(m^2)$ .

4.2 Blood lipid : Participants were required to fast overnight. Fasting venous blood samples were then collected and analyzed for biomedical indicators including cholesterol, triglyceride, HDL, and LDL.

#### DATA ANALYSIS

Statistical analyses were carried out with the SPSS Version 20.0 program. Characteristics of both experimental and control group are given as mean  $\pm$  SD, frequency and percentages. The homogeneity of the values of the variables measured between the experimental and control group at baseline were tested using a two tailed independent sample t- test. At posttest the difference of means were compared using a one tailed paired t-test within groups and a one tailed independent sample t- test for between groups comparison. For all analyses, a p-value of  $< 0.05$  was considered statistically significant.

**Figure 1**  
**Menopausal women RCT profile.**



#### RESULTS

Fig. 1 shows the trial profile. Twenty four of 27 participants (88.9%) in the experimental group and 26 of 27(96.3%) in the control group met eligibility criteria and completed all assessments. The mean age of participants in the experimental group was  $52.9 \pm 4.3$  years and that of the control group was  $50.7 \pm 3.6$  years. The analysis shows no significant differences in any variables were detected between the two groups at the beginning of the study (Tables 1).

**Table 1**  
**Health assessment values of participants at baseline.**

Outcome variable	Exp. group(n=24)	Cont. group(n=26)	t	P
BW(kg.)	60.8 $\pm$ 9.6	57.9 $\pm$ 9.1	1.11	.273
BMI(kg/m <sup>2</sup> )	24.8 $\pm$ 3.5	23.8 $\pm$ 3.0	1.15	.257
cholesterol	218.6 $\pm$ 38.8	223.4 $\pm$ 33.7	-.47	.644

triglyceride	116.9 ±43.3	111.2 ± 60.3	.39	.698
HDL	63.8 ± 14.9	63.2 ± 13.3	.16	.874
LDL	132.3 ± 36.5	138.1 ± 33.8	-.58	.562

Data are mean ±SD.

After 13 weeks, a significant decrease in BW, BMI, cholesterol, triglyceride, and LDL. were observed only in the experiment group, but no significant differences were noted in the control group. There was a significant difference between groups in terms of a decrease in triglyceride in the experimental group compared to the control group but no significant differences in BW, BMI, cholesterol, HDL, and LDL.(Tables 2).

**Table 2**  
**Health assessment values of participant at base line and post test.**

Variable/ group	Baseline	12 weeks	t <sup>w</sup>		Difference (pre- post)	t <sup>b</sup>	P (one-tail)
BW(kg.)							
Exp.gr	60.8 ± 9.6	59.5 ± 9.5	4.45	.000	1.3 ± 1.5	-.58	.282
Cont.gr.	57.9 ± 9.1	57.9 ± 8.9	.30	.385	0.1 ± 1.5		
BMI (kg/m <sup>2</sup> )							
Exp.gr	24.8 ± 3.5	24.3 ± 3.4	4.51	.000	0.6 ± 0.6	-.52	.304
Cont.gr.	23.8 ± 3.0	23.8 ± 2.9	.33	.371	.04 ± .57		
Cholesterol							
Exp.gr	218.6 ± 38.8	204.9 ± 36.1	2.76	.005	13.6 ± 24.2	-1.68	.050
Cont.gr.	223.4 ± 33.7	220.7 ± 29.4	1.31	.101	2.73 ± 10.6		
Triglyceride							
Exp.gr	116.9 ± 43.3	89.2 ± 37.3	3.25	.002	27.8 ± 41.9	-1.74	.045
Cont.gr.	111.2 ± 60.3	113.4 ± 59.5	-1.49	.075	-2.2 ± 7.6		
HDL							
Exp.gr	63.8 ± 14.9	65.0 ± 15.8	-.721	.239	-1.1 ± 7.6	.71	.241
Cont.gr.	63.2 ± 13.3	61.9 ± 14.3	1.63	.058	1.3 ± 3.9		
LDL							
Exp.gr	132.3 ± 36.5	123.5 ± 34.9	1.99	.029	8.8 ± 21.8	-1.52	.068
Cont.gr.	138.1 ± 33.8	137.9 ± 32.3	.04	.482	0.2 ± 17.9		

Experimental group(n=24), Control group (n=26)

Data are mean ± SD

tw : paired t-test within a group; tb : independent t-test between groups.

## DISCUSSION

This is the first study to examine the effects of Thai mind-body exercise Rusie Dutton on the health of menopausal women. The findings of this study indicate a significant improvement in health in the experimental group as shown in a decreased body weight, body mass index and blood lipid level including cholesterol, triglyceride, and LDL. after the period of Rusie Dutton practice. These finding are consistent with a previous study which found that mind-body exercise that incorporated slowly paced-gentle movements, controlled breathing and meditation improved hyperlipidemia and obesity [14-16]. In addition, Rusie Dutton practice no limited in area and place due to all in standing position, no limited in busy people because they can find appropriated posture, apply in sitting position and take less than 10 minutes during working hours to practice this exercise for releasing muscle fatigue and stress.

## CONCLUSION

In light of the aforementioned results, the researcher would like to recommend that Rusie Dutton should be promoted as an alternative exercise for menopausal women. Moreover, the practice should be further studied with other groups of people to confirm these preliminary findings and discover if it might provide the same health benefits as Yoga, Tai Chi, or Qigong exercises.

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